International Journal of Information Studies

DLINE JOURNALS

Print ISSN: 1911 8408
Online ISSN: 1911 8414
IJIS 2025: 17 (1)
https://doi.org/10.6025/ijis/2025/17/1/16-22

# Green Library: The Role of Librarian in Building Green Libraries

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**ABSTRACT**

*The libraries in the modern era face the issue of global surface, disforestation and working for environmental sustainability through developing green libraries through its social responsibility. This paper discusses the green practices that can help build the green libraries of a sustainable environment by supporting water conservation and energy conservation, reducing pollution and creating a healthy atmosphere for future generations. Green libraries are built with environment-friendly building materials, which maximize the utilization of locally available materials and natural resources, proper utilisation of waste water and less use of artificial energy by using natural ventilation and renewable solar energy effectively. Library professionals are taking part in going green for sustainable development by taking precautionary measures to decrease global warming, greenhouse gases, and pollution and adhering to green practices for a healthy environment and survival. The study covers the role of librarians in building green libraries and practising green habits in libraries. The steps involved in creating green libraries and the skills that need to be updated and adopted by library professionals are discussed.*

**Keywords:** Green Libraries, Sustainability, Energy Conservation, Pollution Reduction

**Received:** 2 October 2024, Revised 29 November 2024, Accepted 5 December 2024



## 1. Introduction

In the present scenario, to create a new milestone, the necessity of a green library plays a key role in environmental protection—the concept of the word Green Library was initiated in 1990. A library designed with the

environment in mind is known as a 'green library'. The green library minimizes electricity consumption and utilises natural ventilation and renewable energies like solar, wind, and wood. According to the Online Dictionary of Library and Information Science, "A Library designed to minimize the negative impact on the natural environment and maximise indoor environment quality using careful site selection, use of natural construction materials and biodegradable products, conservation of resources(water, energy, paper, responsible waste, disposal, recycling etc.". In this digital era, many library professionals initiate efforts to use cutting-edge technology to transform their libraries into eco-friendly, sustainable libraries to contribute to the environment's sustainable development. Library professionals must be highly professional and technically strong to build connections with other libraries, consortia, and fellow professionals to build and promote green libraries.

## 2. Goals

• We intend to bring and document the various green practices for building green libraries to make them known to the users

• This work will highlight the proposed green libraries' models to conserve energy and Water.

• It is essential to identify and enlist the stages and steps in building green libraries and the practices that should be followed while building green libraries.

• In building green libraries, what is the role of library professionals, and how can they best contribute to them?

## 3. Why do we need a Green Library

• Green libraries contribute to sustainability by using green technologies, strategic planning, and adopting green practices.

• Global surface temperature is increasing every day. Building green libraries can decrease the temperature

• Developing sustainable libraries at affordable cost by using recycled materials.

• To reduce the Carbon footprints

• Social responsibility and commitment towards society to reduce the harmful impact on the earth

• To create awareness of sustainable environment among the society

• To protect and sustain the Natural Resources for the future generation

• To encourage Disforestation through going paperless, less use of paper

• Encouraging the use of Renewable energies and materials for a sustainable environment

# 4. Green Practices for Building Green Libraries

## 4.1 Collection Development& Acquisition of Materials

• Ensure the online resources collected and available to the users

• Digitisation of print materials through OCR

• Use of chlorine-free and eco-friendly paper

• Procuring –books and e-journals and motivating and creating awareness among users on the usage of e-materials to reduce the use of paper

• Using OPAC instead of Card Catalogue

## 4.2 Green Buildings

• Using recycled building materials, such as rubber flooring and wooden roofing, saves natural resources and reduces pollution.

• Roof to gardens to reduce building heat, keep building cool, and reduce the $CO_2$.

• Planting trees around the library prevents pollution and increases its aesthetic appeal.

• LED lights are used to save energy and reduce heat radiation.

• Use recyclable and reusable soft pads, acoustic controls, and noise pollution reduction in the libraries.

• Sensors are used to auto-switch on and off when in use.

• Using Sensor taps and dual flush toilets to decrease the water usage in bathrooms.

• Using chemical-free, biodegradable, organic plant-based products to maintain floors and racks.

• Use of natural pesticides for the preservation of reading materials

• Adopt a rainwater harvesting system for watering plants and toilets, which may reduce water wastage.

• Wind turbines are used for energy, and solar panels generate renewable solar energy for electric requirements.

• Natural ventilation through large windows strategically placed may help reduce cooling and heating costs, control humidity levels, control impurities, and reduce energy usage.

• Window shading is used for auto-cooling and heating the library according to the weather.

• Using indoor plants to increase indoor air quality.

- Geothermal heaters and solar tubes create and deliver light to illuminate the interior and save energy.

- Using a staircase, avoid the escalator to avoid energy consumption.

- Using recycled paper pens causes a decrease in Carbon footprint and saves water and trees.

## 4.3 Waste Management & Recycling of products

- Recycling of damaged books, reusing and donating old and discarded library books and journals.

- Exchange and donation of materials with other libraries instead of discarding the materials.

- Use recycled computers and printers and exchange or donate them to needy departments for reuse.

- Use eco-friendly dustbins. Avoid plastic bags

- Adopt measures for e-waste management and ensure the segregation of waste into general, recycled and hazardous waste.

- Using recycled cartridges in printers in the library.

## 4.4 Use of Technology

- Use of IT applications in digitisation, remote access software, RFID Technology, and e-repositories may increase the energy consumption

- Automation and digitisation of regular library activities using Integrated library software.

- Using a centralised server system to avoid the huge conservation of energy.

- Use of Laptops instead of Desktops for less use of electricity

## 4.5 Library Services and Regular activities

- Use of automated email alerts for circulation, return and reminder for books instead of using paper or letterhead

- Instead of photocopying or reprographic, send the scanned copy of the materials to the user

- Double-printing facility to reduce paper wastage

- Use recycled ink cartridges for printers to cause less harm to the environment

- Use of printer which acts dual as printer and scanner

- E-receipts can be replaced with the paper receipts

• Online membership applications will be replaced with the printed application form.

## 5. Elements of Green Library

Many elements should be designed, planned, and implemented while building green libraries. This includes the proper selection of the site for the green library with a minimum budget, which will save the expenditure involved in building it. While planning, one should keep in mind that the maintenance cost is less. It is advisable to use recyclable and renewable energy materials when building. Wherever possible, the designers should use rainwater. During operation, any form of pollution, such as air or water contamination, is not allowed. Water recycling will save on water costs and avoid wasting water resources. Natural ventilation with the green roof will add value to the proposed green libraries. Many suggest using solar energy, particularly where solar energy is abundant. Maintaining indoor air quality by planting more green plants inside is highly useful.

## 6. Role of Library Professionals in going green for building green libraries for environmental sustainability

Library professionals are now a day's calling as eco-librarians because of their immeasurable efforts and contributions to environmental sustainability. The changing role of librarians in transforming libraries from traditional to digital, digital to smart and smart to green libraries. The professionals think responsibly for the sustainability of the environment, show concern towards nature, and put their efforts into a sustainable environment by going green. Library professionals are going through a lot of hurdles in transforming present libraries into green libraries.

The library professional has to follow a few steps or procedures to build green libraries.

### Understand the concept of Green Libraries

Library professionals are required to have a clear vision for practising green habits in the present library and building a green library that follows the standards set by USGBC, IGBC, TERI, LEED, and other initiatives.

### Formulation of In-House Green Team

Library professionals alone cannot run or build green libraries. They should form a committee to practice green habits with rules and regulations consisting of the librarian, institutional heads, faculty representatives, student representatives, and social organisers who are already involved in green practices. The committee is designated to prepare a plan of action for fundraising, distribute work to the concerned parties, organise creative workshops for promotion, and create awareness.

### Identification of Materials and Sources

The Green team has to identify the suitable materials, recyclable products, reusable energy, and standard guidelines in building structure, use of locally available materials and their effective utilisation in the libraries for a sustainable environment

### Identification of Green Technologies

Identify the technologies that can be adopted in Energy Savings, Resource reuse, product recycling, and implementation of library services using Library Automation, Digitization, RFID Technologies, etc. Using

technology in e-waste management, solid waste management, and the use of recyclable cartridges and dual-mode printers/scanners can do less harm to the environment.

### Implementation or Execution of green practices

The library professionals collect the existing information from all the users and staff in implementing green practices in the library, identify the various environmental improvement opportunities like water and electricity bills, purchases, light, recycling papers, recycling bins, water taps, avoid the plastic bags and bins. Adopt rainwater harvesting systems, use natural ventilation, use solar energy and LED lights for energy consumption, use technology to preserve the materials, purchase online materials instead of print materials, use biodegradable products in the maintenance of the library, planting and gardening throughout the libraries to keep for cooling and heating naturally.

### Training the Staff and Creating awareness

The library professionals have considered all levels of library staff for the maintenance and implementation of green practices in the library. Create training programs for the staff to understand the workflow of Green Library and the procedures involved. Create awareness among the users on practices of green habits on paperless transactions, use of e-materials, online services to the users, proving e-receipts, access to OPAC, organise creative activities using DIY to reuse papers and materials, etc. Organise promotional activities to draw the attention of other libraries to indulge in green practices in their everyday life.

## 7. Skills required for the librarian to adopt Green Practices

• A librarian who can take the initiative for global sustainability is needed for green libraries.

• The skills mentioned below are mandatory for any librarian to comply with green libraries.

• The Librarian should be proactive and dynamic in promoting green libraries

• The librarian should be tech-savvy enough to adopt green technologies for water conservation, energy conservation, and maintaining indoor air quality.

• The librarian should be the decision maker and convince the management in the selection of materials, technology, green computing, organic gardening, etc.

• The librarian should be aware and knowledgeable about the locally available materials

• The librarian should be aware of reusable and recyclable materials and energy to reduce the environmental burden. The librarian can initiate resource sharing or exchange of outdated and worn books with other libraries.

• The librarian should be able to create a network of libraries for cooperation and achieve a new milestone in building green libraries.

• The librarian can encourage the publisher to use recycled paper to print materials.

• The librarian should organise an orientation for the users on using recycled papers and paper pens, avoiding plastic bags, and motivating them to use biodegradable materials in daily life.

## 8. Conclusion

A friendly library system is a challenging task for the library professional. Green libraries play a key role in environmental protection. Green libraries solve the present library's biggest problems, i.e., space, collection, and budget. Library professionals are adopting green practices and creating awareness in society among users. Other libraries practice green habits in their everyday lives and overcome and challenge the hurdles they go through while going green. Library professionals are adopting green technologies to minimise artificial light and save energy by using natural ventilation to minimise water wastage through rainwater harvesting and using recycled water for plants, washrooms, etc. Librarians are role models to society and represent libraries as role models and responsible social institutions for their phenomenal contribution to the sustainable environment by conserving energy and water and avoiding deforestation. Library professionals must build a network with national and international bodies to promote and create awareness of green libraries.

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